

Type I and II Ground Disturbing Categorical Exclusion Action Classification Form

STIP Project No.	BR-0029
WBS Element	67029.1.1
Federal Project No.	N/A

A. Project Description:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 550026 on NC 106 (Dillard Road) over Middle Creek in Macon County, North Carolina, for an approximate length of 0.40 miles (see Figure 1 – Vicinity Map). The proposed action is listed in the Bridge Program as Project Number BR-0029.

The existing bridge is 88 feet long, with a clear roadway width of 18.75 feet. The project is located in a rural area southwest of the unincorporated community of Scaly Mountain with a few single-family residences and open land nearby. The bridge is approaching the end of its functional life and has a sufficiency rating of 37.9. The purpose of the project is to replace a functionally obsolete bridge with a structure that meets current NCDOT standards.

B. Description of Need and Purpose:

The purpose of this project is to replace a functionally obsolete bridge. Bridge No. 550026 was constructed in 1938 and is in need of replacement. Records indicate Bridge No. 550026 has a sufficiency rating of 37.9 out of 100. In 2018, NCDOT bridge crews welded ½” plates to the bottom flanges along the outside beams of Span 1 and 3. Beam end plating was added to Beam 1 along Span 3, to strengthen the beam. The maintenance performed was only a temporary improvement and does not remove the need to replace the bridge.

C. Categorical Exclusion Action Classification: (Check one)

TYPE I A

D. Proposed Improvements

28. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e)(1-6).

E. Special Project Information:**Environmental Commitments:**

Greensheet commitments are located at the end of the checklist.

Estimated Traffic:

Traffic volumes were provided in a December 2017 Traffic Forecast Report.

Current Year (2017)	3,200
Future Year (2040)	5,600
TTST	2%
Dual	5%

Design Exceptions:

There are no anticipated design exceptions for this project.

Alternatives Evaluation:

No Build Alternative – A No-Build Alternative would not replace a deficient bridge and would result in eventually closing the road.

Build Alternative – The Build Alternative proposes to replace the existing 88-foot long structure on NC 106 (Dillard Road) with an approximately 107-foot long bridge with the roadway approach widened to 40-feet; with two, 12-foot travel lanes and eight-foot shoulders along the outside of each travel lane (see Figure 2 – Proposed Build Alternative). No off-site detours are anticipated for this project. The replacement bridge will be constructed directly to the north of the existing structure and is expected to implement staged construction. The two travel lanes on the existing bridge are anticipated to remain open during construction to allow for full movement of traffic. Deconstruction of the existing bridge will transpire to allow construction of the replacement structure to be completed. One-lane traffic operations may be necessary during final pavement tie-ins, but those operations would be kept at a minimum as traffic movement will shift to the replacement structure and the existing bridge is removed. The speed limit will be 45 miles per hour (mph).

Estimated Costs:

Current cost estimates were provided by the NCDOT Contracts and Standards group on May 2019, for the Preferred Alternative:

Right-of-Way Acquisition	\$TBD
Utilities	\$TBD
Construction	\$2,800,000
Total	\$TBD

Bridge Demolition:

The existing structure is made of concrete and steel and NCDOT anticipates being able to remove the structure with no debris falling in the water based on standard demolition practices.

Protected Species:

As of April 27, 2018, the United States Fish and Wildlife Service (USFWS) lists 11 federally protected species under the Endangered Species Act (ESA) for Macon County. Based on a review of the North Carolina Natural Heritage Program (NCNHP) records and biological field surveys, a total of six species were found to have a biological conclusion rendering of “No Effect.” The bog turtle was “Not Required” to have a biological conclusion and the Rusty-patched bumble bee does not require a Section 7 survey or conclusion at this time.

The biological conclusion for the Gray bat, Indiana bat and Northern long-eared bat is “Unresolved.” As the United States Army Corps of Engineers (USACE) is the lead federal agency for this state-funded project, the USACE will render biological conclusions for all species.

Jurisdictional Resources:

One jurisdictional stream, Middle Creek; was identified in the project study area. The project proposes a replacement bridge to the north of the existing structure. The approximately 107-foot structure will span over the stream as support columns will not be needed within Middle Creek. Riprap will be extended to the top of the banks for stabilization and Best Management Practices (BMPs) will be followed during construction. There were no other surface water ponds or jurisdictional wetlands identified within the project study area.

Cultural Resources:

NCDOT Cultural Resources staff determined there are no significant historic resources in the Area of Potential Effects (APE); which covers an area measuring 2,130 feet east and 2,220 feet west along NC 106 from the center of the bridge and extends 250 feet to either side of the road. Bridge No. 550026 is not eligible for national registrar (NR) listing based on the NCDOT historic bridge inventory.

NCDOT Historic Architecture Staff identified no National Register listed or eligible properties within the APE. A No Historic Architecture Survey Required form was submitted on January 8, 2018.

NCDOT Archaeology staff identified no previously recorded archaeological sites or cemeteries within the APE. An Archaeological Survey Required form was submitted on February 15, 2018. An intensive archaeological survey was conducted on May 3-4, 2018. Field investigations did not locate any new archaeological resources, and it was determined no significant archaeological sites are present. A No National Register Eligible or Listed Archaeological Sites Present form was submitted on August 21, 2018.

No further architectural or archaeological investigations are required for this project. However, should the project expand outside of the defined APE, additional work will be necessary. NCDOT Cultural Resources determination can be found in Appendix B.

Public Involvement:

A Public Meeting was held on Thursday, November 29, 2018, at the Sky Valley – Scaly Mountain Volunteer Fire and Rescue building in Scaly Mountain. Approximately 27 people attended the public meeting with seven comments being received during the comment period. The majority of comments were in support of the project, and included requests for improved visibility of traffic along NC 106 (Dillard Road) from Happy Hill Road (existing structure), accommodating truck traffic, and replacement of the existing structure.

F. Project Impact Criteria Checklists:

<u>Type I & II - Ground Disturbing Actions</u>			
<u>FHWA APPROVAL ACTIVITIES THRESHOLD CRITERIA</u>			
If any of questions 1-7 are marked "yes" then the CE will require FHWA approval.		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project require an Individual Section 4(f) approval?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If any of questions 8 through 31 are marked "yes" then additional information will be required for those questions in Section G.			
<u>Other Considerations</u>		Yes	No
8	Does the project result in a finding of "may affect not likely to adversely affect" for listed species, or designated critical habitat under Section 7 of the Endangered Species Act (ESA)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project include a Section 106 of the NHPA effects determination other than a no effect, including archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Other Considerations (continued)</u>		Yes	No
15	Does the project involve hazardous materials and/or landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22	Does the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Does the project include a <i>de minimis</i> or programmatic Section 4(f)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
29	Is the project considered a Type I under the NCDOT's Noise Policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F

Response to Question 8:

The biological conclusion for the Gray bat, Indiana bat and Northern long-eared bat is “Unresolved.” As the USACE is the lead federal agency for this state-funded project, the USACE will render biological conclusions for all species.

Response to Question 11:

The North Carolina Wildlife Resource Commission (NCWRC) has identified this area of Middle Creek as an area where brown and rainbow trout occur. Per a Memorandum dated September 17, 2018, a moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15, to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds (Appendix C).

Response to Questions 21 and 28:

In order to construct the proposed project, NCDOT will need to acquire right-of-way and easements from the Nantahala National Forest, which is managed by the US Forest Service. This acquisition has been reviewed by FHWA and USFS and deemed by a programmatic 4(f) evaluation that will not adversely affect the Forest's access or use, per the letter in Attachment D.

H. Project Commitments

**Macon County
Bridge No. 550026 on NC 106 over Middle Creek
WBS No. 67029.1.1
TIP No. BR-0029**

NCDOT Environmental Analysis Unit

Section 7: As the USACE is the lead federal agency for this state-funded project, the USACE will render a Biological Conclusion for all species.

Brown and Rainbow Trout Moratorium: At the request of the North Carolina Wildlife Resources Commission, NCDOT will adhere to an in-stream and 25-foot buffer work moratorium from October 15 to April 15, to protect the egg and fry stages of trout. Sediment and erosion control measures will adhere to the Design Standards in Sensitive Watersheds.

NCDOT Division 14 Right-of-Way

Section 4(f): The NCDOT and FHWA do not anticipate that the proposed project will have an adverse effect on the activities, features, and attributes that qualify the Nantahala National Forest for protection under Section 4(f). NCDOT right of way agents will coordinate with the USFS to appraise the right of way required for the project prior to construction.

NCDOT Division 14

Section 4(f): NCDOT Division 14 staff will coordinate with the USFS regarding project developments associated with the Nantahala National Forest.

I. Categorical Exclusion Approval

STIP Project No.	<u>BR-0029</u>
WBS Element	<u>67029.1.1</u>
Federal Project No.	<u>N/A</u>

Prepared By:

7/30/2019

Date

DocuSigned by:


Shawn Blanchard, Transportation Planner
 DRMP, Inc.

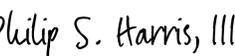
Prepared For:

Structures Management Unit
North Carolina Department of Transportation

Reviewed By:

7/30/2019

Date

DocuSigned by:


Philip S. Harris III, PE
 North Carolina Department of Transportation, Environmental Analysis Unit



Approved

If all of the threshold questions (1 through 7) of Section F are answered "no," NCDOT approves this Categorical Exclusion.



Certified

If any of the threshold questions (1 through 7) of Section F are answered "yes," NCDOT certifies this Categorical Exclusion.

8/6/2019

Date

DocuSigned by:


Kevin Fischer, PE
 North Carolina Department of Transportation, Structures Management Unit

FHWA Approved: For Projects Certified by NCDOT (above), FHWA signature required.

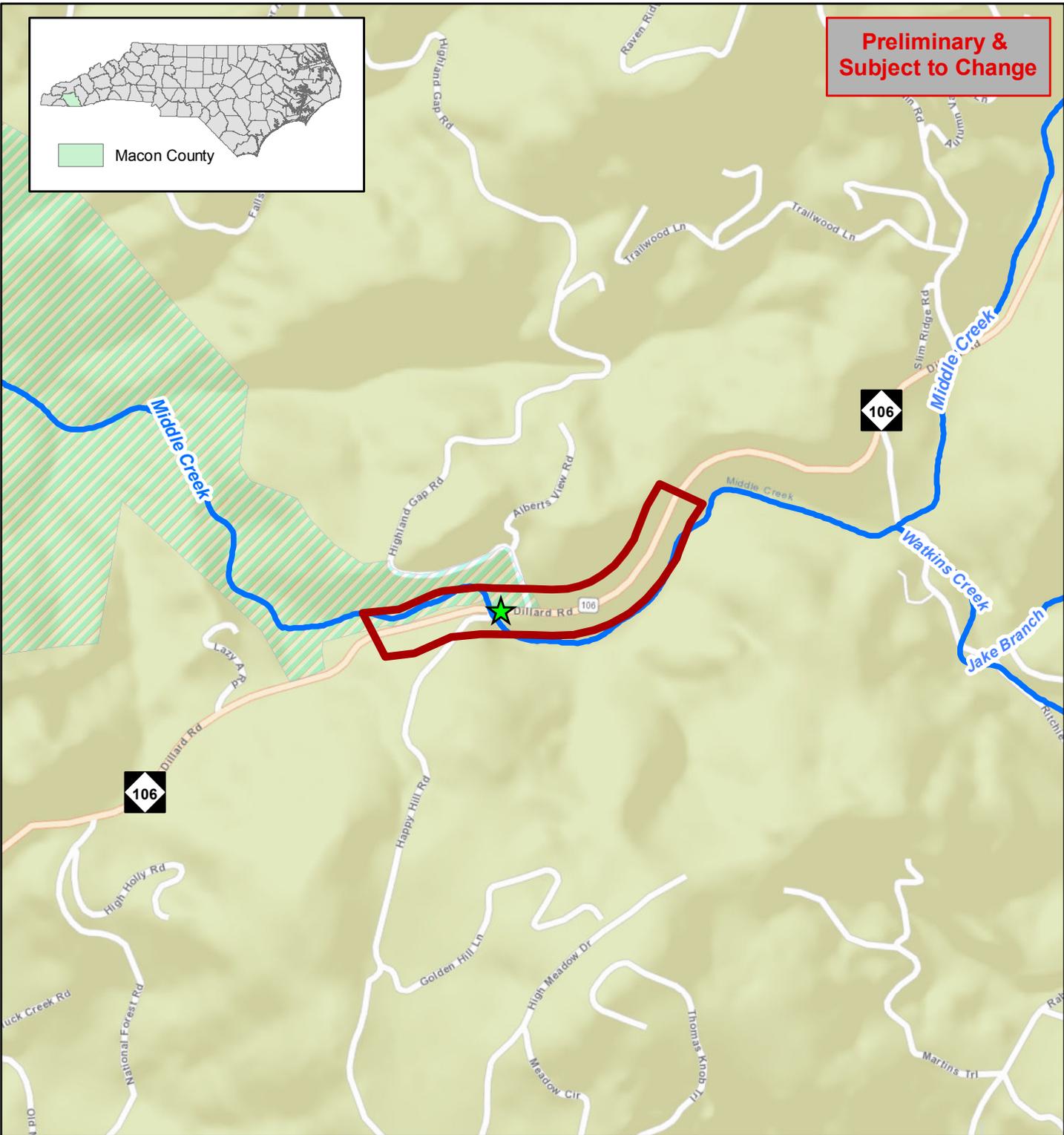
Date

N/A
John F. Sullivan, III, PE, Division Administrator
 Federal Highway Administration

FIGURES



Preliminary & Subject to Change



Legend

- Bridge No. 550026
- River & Streams

- BR-0029 Study Area
- Nantahala Forest

July 2019



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

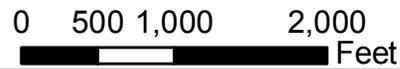
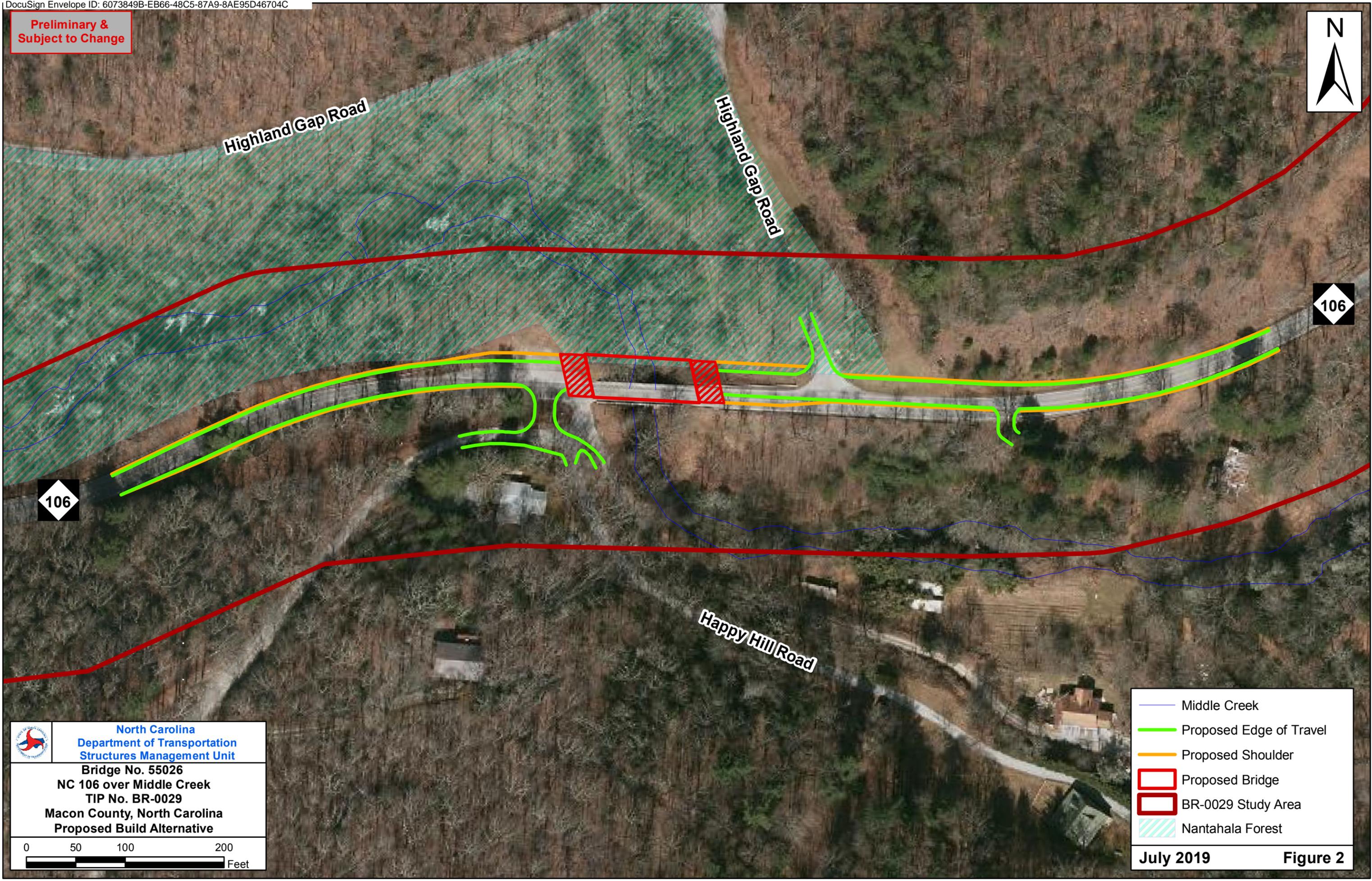


Figure 1

Preliminary &
Subject to Change



106

106



North Carolina
Department of Transportation
Structures Management Unit

Bridge No. 55026
NC 106 over Middle Creek
TIP No. BR-0029
Macon County, North Carolina
Proposed Build Alternative



-  Middle Creek
-  Proposed Edge of Travel
-  Proposed Shoulder
-  Proposed Bridge
-  BR-0029 Study Area
-  Nantahala Forest

July 2019

Figure 2

APPENDIX A

Section 7 Survey Results for the Northern Long-Eared Bat, Indiana Bat and Gray Bat



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

September 25, 2018

TO: Bill Barrett, Environmental Senior Specialist
Environmental Coordination & Permitting Group, EAU

FROM: Melissa Miller, Environmental Program Consultant
Biological Surveys Group, EAU

SUBJECT: Section 7 survey results for the northern long-eared bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalis*) and gray bat (*Myotis grisescens*) associated with the replacement of Bridge No. 26 over Middle Creek on NC 106 in Macon County, **TIP No. BR-0029.**

On June 20, 2018, NCDOT biologists assessed Bridge No. 26 for potential northern long-eared bat, Indiana bat and gray bat habitat. Shallow top-sealed crevices suitable for roosting were present. Evidence of bats in the form of guano was observed in multiple places under the bridge. No mines or caves were detected in the project area.

Bridge No. 26 is approximately 10 miles to the nearest red HUC.

Final design, tree clearing and percussive activities information will be provided in the permit application.

If you need any additional information, please contact Melissa Miller at 919-707-6127.

APPENDIX B

Cultural Resources Determination

17-12-0040



HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

PROJECT INFORMATION

Project No:	BR-0029	County:	Macon
WBS No.:	67029.3.1	Document Type:	MCC
Fed. Aid No:	N/A	Funding:	<input checked="" type="checkbox"/> State <input type="checkbox"/> Federal
Federal Permit(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Permit Type(s):	USACE
Project Description: Replace Bridge No. 550026 on NC106 over Middle Creek.			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusions:

Review of HPO quad maps, HPO GIS information, historic designations roster, and indexes was undertaken on January 8, 2018. Based on this review, there are no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects, which is 500' from each end of the bridge and 75' from the centerline each way. 48 Happy Hill Road, a one-story frame house, is within the APE. The mid-20th century house is unremarkable and not eligible for NR listing. Bridge No. 26 is not eligible for NR listing based on the NCDOT historic bridge inventory. There are no National Register listed or eligible properties and no survey is required. If design plans change, additional review will be required.

Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:

HPO quad maps and GIS information recording NR, SL, LD, DE, and SS properties for the Macon County survey, Macon County GIS/Tax information, and Google Maps are considered valid for the purposes of determining the likelihood of historic resources being present. There are no National Register listed or eligible properties within the APE and no survey is required.

SUPPORT DOCUMENTATION

Map(s) Previous Survey Info. Photos Correspondence Design Plans

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

Kate Hubbard

NCDOT Architectural Historian

1/8/2018

Date



ARCHAEOLOGICAL SURVEY REQUIRED FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.



PROJECT INFORMATION

Project No: **Bridge 26** County: **Macon**
 WBS No: **67029.1.1** Document: **Minimum Criteria**
 F.A. No: **na** Funding: State Federal

Federal Permit Required? Yes No Permit Type: **NWP# 3 or 14**

Project Description:

The project calls for the replacement of Bridge No. 26 on NC 106 (Dillard Road) over Middle Creek in Macon County. The archaeological Area of Potential Effects (APE) for the project is defined as a 4,350 foot (1,325.88 m) long corridor running 2,130 feet (649.22 m) east and 2,220 feet (676.66 m) west along NC 106 from the center of Bridge No. 26. The corridor is approximately 500 feet (152.40 m) wide extending 250 feet (76.20 m) on either side of the road from its present centerline.

SUMMARY OF ARCHAEOLOGICAL RESOURCES REVIEW: **SURVEY REQUIRED**

Brief description of review activities, results of review, and conclusions:

Bridge No. 26 is located southwest of Highlands in Macon County, North Carolina. The project area is plotted at the southern edge of the Scaly Mountain USGS 7.5' topographic quadrangle (Figure 1).

A site file search was conducted at the Office of State Archaeology (OSA) on January 11, 2018. No previously recorded sites are recorded within or adjacent to the APE, but six sites (31MA276–31MA280 and 31MA282) are identified within a mile of the bridge. According to the North Carolina State Historic Preservation Office online data base (HPOWEB 2018), there are no known historic architectural resources within the APE that may yield intact archaeological deposits. Topographic maps, USDA soil survey maps, aerial photographs (NC One Map), historic maps (North Carolina maps website), and Google Street View application were also examined for information on environmental and cultural variables that may have contributed to prehistoric or historic settlement within the project limits and to assess the level of ground disturbance.

NC 106 and Bridge No. 26 run slightly east to west, while Middle Creek drains to the northwest into the Little Tennessee River. An unnamed tributary to Middle Creek also falls within the APE, west of the bridge, with the confluence just outside. The APE consists mostly of steep side slopes, but sloping terraces are present at the western end (Figure 2). The project area is typically forested with some residential properties and open spaces. It appears the U.S. Forest Service may own property northwest of the bridge, but this has not been confirmed. Disturbance appears light except for hillsides that have been cut back for the road. Other disturbance from soil erosion and grading are likely.

The USDA soil survey map for Macon County records four soil types within the APE (USDA NRCS 2018) (see Figure 2). The side slopes are made up of the Cullasaja-Tuckasegee complex (CuD) and the Edneyville-Chestnut complex (EdD; EdE; EdF). Although well drained, these soils have a slope of 15 percent or more and are not usually tested for archaeological resources. However, they may contain rock shelters that can be visually identified. The Tuckasegee-Cullasaja complex (TsC) composes the sloping

terraces to the west. This series is well drained with a slope of 8 to 15 percent. Being dry and fairly level, it is well suited for early settlement activities. Finally, a small area to the northeast is reported as Udorthents loam (Ud). This is a disturbed area where the natural soil characteristics have been altered by earth moving activities. The actual disturbance at this location is unknown, but it may be related to hillside grading.

A review of the site files shows only one previous archaeological investigation in the region. This work conducted by the U.S. Forest Service included properties north of NC 106 mostly along ridge tops outside of the current APE (Raddisch et al 1989). Testing consisted of a fire rake survey and not subsurface testing. Six prehistoric sites (31MA276–31MA280 and 31MA282), one (31MA282) of which yielded historic resources as well, were identified. These sites were lithic scatters that were determined ineligible for the National Register. In general, further work in various settings other than ridge tops is needed in this section of Macon County to better understand settlement patterns.

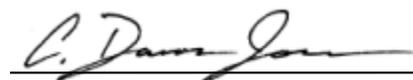
A historic map review was also conducted for the project area. The 1907 USGS Cowee topographic map was the earliest in which an accurate location for the project could be determined (Figure 3). It shows a road with a similar alignment as NC 106, but Middle Creek is plotted further towards the northeast. This location is probably incorrect as it does not appear that the creek has been moved during the 20th century. Two structures are also depicted either within or near the APE, but it appears neither is still standing. The circa 1910 U.S. Post Office map also illustrates the road but with a distorted alignment (Figure 4). This distortion is likely due to the schematic nature of the Postal map. Structures are plotted as well; however, they seem to be outside of the project limits. The 1933 *Soil Map for Macon County* shows a more accurate and modern road layout with structures on either side of the bridge (Figure 6). Although it is very likely that structures found on these maps are no longer standing, remains could still be present. Further work is needed to determine if any of these are significant to the early historic occupation of the region.

A preliminary background investigation suggests that subsurface testing is necessary within particular portions of the APE for the proposed replacement of Bridge No. 26 on NC 106 in Macon County. These areas are at the western end of the APE along the stream terraces. Although most of the project area is steeply sloped and will not require testing, it should be visually inspected for rock shelters. Historic maps also suggest that remnants of households from the early 20th century or earlier may be present. Lastly, the U.S. Forest Service will need to be consulted if there property is to be effected. Additional work in the form of a reconnaissance and field survey is recommended in order to record and evaluate archaeological sites that might be impacted by this proposed project in Macon County.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence
 Photocopy of County Survey Notes Other: **images of historic maps**

FINDING BY NCDOT ARCHAEOLOGIST – *SURVEY REQUIRED*



C. Damon Jones
NCDOT ARCHAEOLOGIST

2/15/18

Date

TBD

Proposed fieldwork completion date

17-12-0040

RECOMMENDATION

New South Associates, Inc. conducted an intensive archaeological survey and evaluation for proposed replacement of Bridge No. 26 in Macon County on May 3 and 4, 2018, under the direction of James Stewart and the supervision of Shawn Patch (see Figures 1 and 2). During the course of the survey, no archaeological resources were identified. Based on these results, no further archaeological investigations are recommended for this project as currently defined. I concur with this recommendation as the proposed project will not impact significant archaeological resources. However if the project expands and impacts subsurface areas beyond the defined APE, further archaeological consultations will be necessary.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence

Other: **Cultural Review**

Signed:



C. Damon Jones
NCDOT ARCHAEOLOGIST

8/21/18

Date

APPENDIX C

North Carolina Wildlife Resources Commission

Trout Moratorium Memorandum Dated September 17, 2018



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

September 17, 2018

MEMORANDUM

TO: Carla Dagnino, Western Region Environmental Program Supervisor II
Environmental Analysis Unit, NC Department of Transportation

FROM: Marla Chambers, Western NCDOT Coordinator *Marla Chambers*
Habitat Conservation Program, NCWRC

SUBJECT: Scoping review of NCDOT's proposed 33 bridge replacement projects in NCDOT Divisions 9 through 14; Davidson, Forsyth, Stokes, Mecklenburg, Union, Alleghany, Ashe, Surry, Yadkin, Cleveland, Gaston, Iredell, Lincoln, Buncombe, Burke, Madison, McDowell, Cherokee, Haywood, Macon, and Polk Counties.

North Carolina Department of Transportation has requested comments from the North Carolina Wildlife Resources Commission regarding impacts to fish and wildlife resources resulting from the subject project. Staff biologists have reviewed the information provided. The following preliminary comments are provided in accordance with the provisions of the state and federal Environmental Policy Acts (G.S. 113A-1 through 113-10; 1 NCAC 25 and 42 U.S.C. 4332(2)(c), respectively), the Clean Water Act of 1977 (33 U.S.C. 466 et seq.) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), as applicable.

Our standard recommendations for bridge replacement projects of this scope are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
2. Bridge deck drains should not discharge directly into the stream.

3. Live concrete should not be allowed to contact the water in or entering into the stream.
4. If possible, bridge supports (bents) should not be placed in the stream.
5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary structures, the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, Bush Hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.
6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
7. In trout waters, the Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.
8. In streams that contain threatened or endangered species, Mr. Logan Williams with the NCDOT - ONE should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage" (May 12, 1997) should be followed.
10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.
11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
14. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.

15. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.
16. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
17. If culvert installation is being considered, conduct subsurface investigations prior to structure design to determine design options and constraints and to ensure that wildlife passage issues are addressed.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel should be placed on or near stream bankfull or flood plain bench elevation (similar to Lyonsfield design). These should be reconnected to flood plain benches as appropriate. This may be accomplished by utilizing sills on the upstream end to restrict or divert flow to the base flow barrel. Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes and 3) by providing resting places for fish and other aquatic organisms. In essence, the base flow barrel should provide a continuum of water depth and channel width without substantial modifications of velocity.
2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks.

If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. Davidson County, BR-0015, Bridge No. 67 and 68 over SR 1192 on US 29/US 70/I-85 Business. It appears Michael Branch and one of its unnamed tributaries are in the project area. Michael Branch flows to Swearing Creek, which appears to be on the 303(d) list of impaired waters. Sedimentation control will be important to prevent further degradation. Stringent sedimentation and erosion control measures and standard recommendations should apply.
2. Davidson County, BR-0016, Bridge No. 150 over SR 2123W on US 29/US 70/I-85 Business. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
3. Forsyth County, BR-0018, Bridge No. 48 over US 52 on NC 8. Leak Fork is in the project area and flows to Mill Creek and then to Muddy Creek. Muddy Creek is on the 303(d) list of impaired waters. Sedimentation control will be important to prevent further degradation. Stringent sedimentation and erosion control measures and standard recommendations should apply.
4. Stokes County, BR-0047, Bridge No. 10 over US 52 on SR 1105 (Meadowbrook Dr.). We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
5. Davidson County, B-5765, Bridge No. 115 over Winston Salem SB Railroad on SR 1711. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
6. Mecklenburg County, B-5990, Bridge No. 1 over Sugar Creek on SR 1138. Sugar Creek is on the 303(d) list of impaired waters. Sedimentation control will be important to prevent further degradation. Stringent sedimentation and erosion control measures and standard recommendations should apply.
7. Mecklenburg County, B-5983, Bridge No. 54 over the Southern Railroad on NC 160. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
8. Mecklenburg County, B-5984, Bridge No. 88 over the Southern Railroad on NC 49. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.

9. Union County, BR-0049, Bridge No. 34 over US 74 and NC 200 on Concord Avenue. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
10. Alleghany County, BR-0001, Bridge No. 30 over Little River on US 21. The Eastern Hellbender (*Cryptobranchus a. alleghaniensis*), a Federal Species of Concern and state Special Concern aquatic salamander that is under review for possible listing as federally Threatened or Endangered, occurs in the project area. This population of hellbenders is one of the best in the New River drainage. Construction and demolition techniques should avoid, if possible, disturbance of the river bed as this animal is vulnerable to being crushed under the rocks. If complete avoidance isn't possible, disturbance should be minimized to the maximum extent practicable and NCDOT should work with our agency to see that appropriate surveys are conducted and hellbenders are relocated prior to construction. No rock-lifting surveys or disturbance of hellbenders should occur after August 15 and through their nesting season (mid-November). We strongly recommend sediment and erosion control measures that adhere to the Design Standards in Sensitive Watersheds to protect the hellbender. The site is popular with Hatchery Supported trout anglers and access to the parking currently used behind businesses adjacent to the bridge should be maintained. Natural trout reproduction is not expected to be significant, therefore, we are not requesting a trout moratorium.
11. Ashe County, BR-0002, Bridge No. 8 over North Fork New River on NC 194. The Eastern Hellbender (*Cryptobranchus a. alleghaniensis*), a Federal Species of Concern and state Special Concern aquatic salamander that is under review for possible listing as federally Threatened or Endangered, occurs in the project area. The status of this population of hellbenders is unknown. Construction and demolition techniques should avoid, if possible, disturbance of the river bed as this animal is vulnerable to being crushed under the rocks. If complete avoidance isn't possible, disturbance should be minimized to the maximum extent practicable and NCDOT should work with our agency to see that appropriate surveys are conducted and hellbenders are relocated prior to construction. No rock-lifting surveys or disturbance of hellbenders should occur after August 15 and through their nesting season (mid-November). We strongly recommend sediment and erosion control measures that adhere to the Design Standards in Sensitive Watersheds to protect the hellbender. Public access should be incorporated into the project plans to provide safe access to public waters, according to the MOA between our agencies. Please contact me for details. Significant trout resources are not expected; therefore, we are not requesting a trout moratorium.
12. Surry County, BR-0048, Bridge No. 103 over the Mitchell River on NC 268. Mitchell River joins the Yadkin River just downstream of the project. The Brook Floater (*Alasmidonta varicosa*), State Endangered and Federal Species of Concern, and the Creeper (*Strophitus undulatus*), State Threatened, are mussel species that occur in the project area or not far downstream. Sedimentation control will be important for this project. Stringent sedimentation and erosion control measures and standard recommendations should apply.
13. Yadkin County, BR-0051, Bridge No. 90 over US 421 on SR 1711 (Speer Bridge Road). We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.

14. Cleveland County, BR-0012, Bridge No. 49 over Sandy Run on US 74 west bound lane. Stringent sedimentation and erosion control measures and standard recommendations should apply.
15. Gaston County, BR-0019, Bridge No. 56 over South Fork Catawba River on NC 275. We request that a small pull-off or parking area, enough for two vehicles to park, be incorporated into the plans for this project for safe public access, in accordance with the MOA between our agencies. Stringent sedimentation and erosion control measures and standard recommendations should apply.
16. Gaston County, BR-0020, Bridge No. 91 over the Catawba River on US 29/US 74. Stringent sedimentation and erosion control measures and standard recommendations should apply.
17. Iredell County, BR-0023, Bridge No. 90 over I-40 on SR 1005. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
18. Iredell County, BR-0025, Bridge No. 118 over I-40 on SR 1639. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
19. Lincoln County, BR-0027, Bridge No. 30 over NC 150 on US 321 Business. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
20. Buncombe County, B-5988, Bridge No. 7 over the French Broad River and Southern Railroad on SR 1620 (Fletcher Martin Road). Significant trout resources are not expected; therefore, we are not requesting a trout moratorium for this project. Stringent sedimentation and erosion control measures and standard recommendations should apply.
21. Buncombe County, BR-0009, Bridge No. 79 over the Broad River on NC 9. Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from January 1 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
22. Burke County, BR-0010, Bridge No. 105 over Johns River on US 64/NC 18. Johns River is classified WS-IV HQW. A popular Boating Access Area that provides boaters access to the lower Johns River and the Catawba River exists in the project area. Also, NCWRC's Johns River Game Land surrounds the project and a portion of it is a Dedicated Nature Preserve. Impacts to the Boating Access Area and Game Land should be avoided if possible. The MOA between our agencies regarding public access applies. NCDOT should work with our agency to ensure minimal impacts to these facilities. Significant trout resources are not expected; therefore, we are not requesting a trout moratorium for this project. Stringent sedimentation and erosion control measures and standard recommendations should apply.

23. Madison County, B-5992, Bridge No. 71 over Big Laurel Creek on SR 1395 (Walnut Creek Road). The Eastern Hellbender (*Cryptobranchus a. alleghaniensis*), a Federal Species of Concern and state Special Concern aquatic salamander that is under review for possible listing as federally Threatened or Endangered, occurs in the project area. This site is also a research stream for the NC Zoo and our collaborative nest hut project for hellbenders. Construction and demolition techniques should avoid, if possible, disturbance of the river bed as this animal is vulnerable to being crushed under the rocks. If complete avoidance isn't possible, disturbance should be minimized to the maximum extent practicable and NCDOT should work with our agency to see that appropriate surveys are conducted and hellbenders are relocated prior to construction. No rock-lifting surveys or disturbance of hellbenders should occur after August 15 and through their nesting season (mid-November). Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from January 1 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
24. Madison County, BR-0032, Bridge No. 84 over Meadow Fork on NC 209. Brown and Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
25. McDowell County, BR-0033, Bridge 84 over I-40 on SR 1234. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
26. Cherokee County, BR-0011, Bridge No. 2 over Slow Creek on NC 141. Significant trout resources are not expected; therefore, we are not requesting a trout moratorium for this project. Stringent sedimentation and erosion control measures and standard recommendations should apply.
27. Haywood County, B-5982, Bridge No. 95 over the Southern Railroad on US 74. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
28. Haywood County, BR-0022, Bridge Nos. 121 and 122 over NC 209 on US 19/23/74. We are unaware of any waterway in the project area. Stringent sedimentation and erosion control measures and standard recommendations should apply.
29. Macon County, BR-0028, Bridge No. 23 over the Nantahala River on US 64. Brown and Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
30. Macon County, BR-0029, Bridge No. 26 over Middle Creek on NC 106. Brown and Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance

within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.

31. Macon County, BR-0030, Bridge No. 85 over Cowee Creek on NC 28. Brown and Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
32. Macon County, BR-0031, Bridge Nos. 226, 227, 228, 229, and 230 over the Nantahala River on SR 1310 (Wayah Road). Brown and Rainbow Trout occur in the project area. A moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer is recommended from October 15 to April 15 to protect the egg and fry stages of trout. Sediment and erosion control measures should adhere to the Design Standards in Sensitive Watersheds.
33. Polk County, BR-0040, Bridge No. 37 over the Green River on NC 9. Stringent sedimentation and erosion control measures and standard recommendations should apply.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases. Spanning structures allow wildlife passage along streambanks, reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at marla.chambers@ncwildlife.org or (704) 244-8907. Thank you for the opportunity to review and comment on this project.

APPENDIX D

Section 4(f) Programmatic Agreement Concurrence



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

December 4, 2018

Amy L. Mathis, Ph.D.
NCDOT Liaison
United States Forest Service
National Forests of North Carolina
160 Zillicoa Street Suite A
Asheville, NC 28801

Dear Dr. Mathis:

The North Carolina Department of Transportation (NCDOT) is proposing to replace Bridge No. 550026 on NC 106 over Middle Creek in Macon County. The bridge, which is approaching the end of its functional life, has a sufficiency rating of 21.9 and needs to be replaced with a structure that will handle multiple modes of transportation. The project will replace the 87-foot long existing bridge with a structure that will be approximately 100 feet long. The roadway approaches to the bridge will be widened to 40 feet in order to provide two 12-foot travel lanes and two 8-foot paved shoulders.

In order to construct the proposed project, NCDOT will need to acquire property from the Nantahala National Forest, which is owned by the United States Forest Service (USFS), and subject to Section 4(f) of the U.S. Department of Transportation Act of 1966. With your agreement, we would deem the impacts to be programmatic since the "proposed project is designed to improve the operational characteristics, safety, and/or physical condition of existing highway facilities on essentially the same alignment." This letter serves as the Section 4(f) evaluation under the Nationwide Programmatic Evaluation by meeting the "Minor Involvement with Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges" criteria.

NCDOT considered alternatives to the proposed project and has determined that in order to minimize impacts to Nantahala National Forest, Middle Creek, and private property; the bridge should be replaced in the same location. Therefore, changing the location of the bridge is not a feasible and prudent alternative. Doing nothing or the "No-Build Alternative" is not feasible or prudent because the existing bridge has reached the end of its useful life and needs to be replaced.

The existing right-of-way at the bridge crossing is approximately 60 feet wide. Preliminary design indicates that the additional right-of-way needed will likely be a maximum of 15 feet to the north side of the existing roadway. It is not anticipated that the proposed project will adversely affect any publicly-owned Nantahala National Forest recreational activities or access.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
STRUCTURES MANAGEMENT UNIT
1581 MAIL SERVICE CENTER
RALEIGH, NC 27699-1581

Telephone: (919) 707-6400
Fax: (919) 250-4082
Customer Service: 1-877-368-4968

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Website: www.ncdot.gov

The design is still preliminary, but the attached figure illustrates the proposed approximate right-of-way that will be required. It is anticipated that less than 0.5 acres of the USFS property adjacent to NC 106 will be needed to realign the roadway with the proposed bridge alignment. Temporary Construction Easement and/or Permanent or Temporary Drainage Easement (PDE/TDE) outside of the proposed right-of-way will likely be necessary for relocating roadside ditches/drainage features. Because the design is preliminary, the easement locations are approximate and subject to change.

The NCDOT and the Federal Highway Administration (FHWA) do not anticipate that the proposed project will have any adverse effect on the activities, features, and attributes that qualify the Nantahala National Forest for protection under Section 4(f). Based on the current schedule, NCDOT right-of-way agents will be in contact with the USFS to appraise the right-of-way required for the project in Spring 2019.

If you concur that the proposed impacts to the Nantahala National Forest as described above and shown on the attached figure will not adversely affect the forest's access and use, NCDOT is requesting that you sign and date this letter in the space provided below, keep a copy for your files, and return a signed original to the address provided. We will keep a copy of the letter in the project files.

As the NCDOT Liaison with jurisdiction over the Nantahala National Forest, I concur with the determination that the proposed Project BR-0029 as described in this letter and shown in the accompanying attachments will not adversely affect the activities, features, and attributes that qualify the Nantahala National Forest for protection under Section 4(f) of the Department of Transportation Act as amended. I have been informed that, based on my concurrence, the FHWA intends to make a programmatic finding regarding impacts to the Nantahala National Forest, thus satisfying the requirements of Section 4(f).

Signed: 

Amy L. Mathis, Ph.D.
NCDOT Liaison
United States Forest Service
National Forests of North Carolina

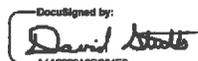
Date: 12/12/18

Upon signing and dating this letter, please return it to me within two weeks of the date of letter by email at dstutts@ncdot.gov, and return a signed original to the following address:

NC Department of Transportation
Structures Management Unit
Attn: David Stutts, P.E.
1581 Mail Service Center
Raleigh, NC 27699-1581

NCDOT greatly appreciates your cooperation in making the BR-0029 bridge replacement project possible. Should you have any questions or concerns, please contact me at (919) 707-6442.

Sincerely,



David Stutts, P.E.
Project Engineer - PEF/Program Mgt.